

## REMARKS

This responds to the Office Action dated May 9, 2007.

Claims 1 and 15 are requested to be amended. Claims 1-28 are now pending in this application.

### §103 Rejection of the Claims

Claims 1-8, 10-22 and 24-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Levine (U.S. Patent No. 6,865,414) in view of Oung et al. (U.S. Patent No. 7,079,888). Claims 9 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Levine (U.S. Patent No. 6,865,414) and Oung et al. (U.S. Patent No. 7,079,888) as applied to claims 1 and 15 above, and further in view of Jensen (U.S. Patent No. 6,941,332). The rejections are traversed and reconsideration is respectfully requested.

As asserted in the Final Office Action, the section 103 rejections are premised upon the teaching by Levine of comparing a beat-to-beat interval with a moving average of previous beat-to-beat intervals in order to detect ectopic beats and the teaching by Oung of computing a heart rate variability metric. The Final Office Action then asserts that it would have been obvious to combine the teachings of Levine and Oung to arrive at the subject matter recited by the pending claims. The mere fact that references *can* be combined or modified, however, does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP 2403.1; *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Applicant does not believe that anything in the prior art of record suggests the desirability of using interval-based filtering of ectopic events in the computation of heart rate variability metrics. Heart rate variability metrics are especially susceptible to corruption by ectopic beats, and it is ectopic beats with outlying intervals that are especially damaging in that regard. No recognition of the problem solved by Applicant's claimed subject matter has been shown to exist in the prior art. Applicant does not believe a *prima facie* case of obviousness has been established with respect to claims 1-28.

For reasons stated above, Applicant believes that claims 1-28 are patentable over the prior art of record. For the purposes of the present response, however, amendments to

independent claims 1 and 15 have been requested that Applicant believes even more clearly define over the prior art. Specifically, it is requested that claims 1 and 15 be amended to recite the step of, or the controller being programmed with instructions for, respectively, updating the plurality of preceding BB intervals used to compute the statistic with a most recent BB interval unless that interval is deemed ectopic. More particularized versions of the limitation are found in claims 8-10 and 22-24, which were rejected under section 103 based upon the Levin, Oung, and/or Jensen references in the Final Office Action. Applicant does not find teaching relating to this limitation in the cited references. Although the Levine reference appears to describe detecting ectopic events using an interval moving average filter, Applicant finds no teaching in the reference relating to the updating of the moving average filter using only intervals determined to be non-ectopic. All that the Jensen reference appears to disclose is the median filtering of data in a FIFO queue. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). None of the prior art references of record teach or suggest updating the plurality of preceding BB intervals used to compute a statistic with a most recent BB interval unless that interval is deemed ectopic, where the computed statistic is used to detect ectopic beats. Appellant therefore does not believe that a *prima facie* case of obviousness has been made with respect to claims 1-28 if the requested amendments are entered. Entry of the amendments and withdrawal of the rejections is respectfully requested.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (847) 432-7302 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

JOHN A. DYJACH ET AL.

By their Representatives,

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.  
P.O. Box 2938  
Minneapolis, MN 55402  
(847) 432-7302

Date July 9, 2007

By / J. Kevin Parker  
J. Kevin Parker  
Reg. No. 33,024

**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 7 day of July 2007.

Paula S. Smith  
Name

Paula S. Smith  
Signature